

Algebra 1-2  
Chapter 6: Systems  
**Chapter Preview**

Name: \_\_\_\_\_

Period: \_\_\_\_\_ Date: \_\_\_\_\_

To be successful in Chapter 6, there are some prerequisite skills that you will have to master:

**Graphing Lines**

- A line is an infinite collection of points going in opposite directions. But all you need to graph a line is **two points** and any straight edge (like your ID or ruler).
- Any two points on that line will do. There are a couple methods you can use to find them.

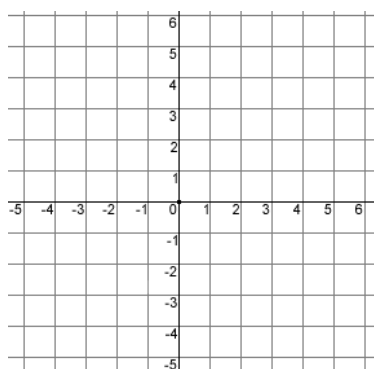
1) For lines in Slope-Intercept Form:  $y = mx + b$

- Begin at the y-intercept, point **(0, b)** [up or down from the origin]
- Use slope (**m**) in fraction form to find the second point needed

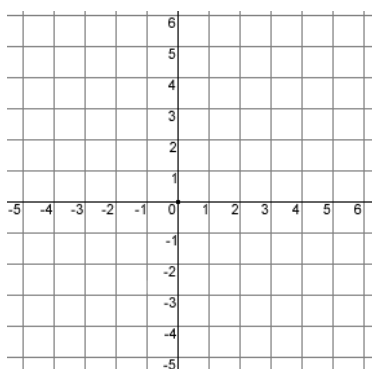
○  $m = \frac{\text{Up}(+)/\text{Down}(-)}{\text{Right}}$  Up or Down from point (0, b) then to the Right

**Graph** each line by using the y-intercept (**b**) and the slope (**m**).

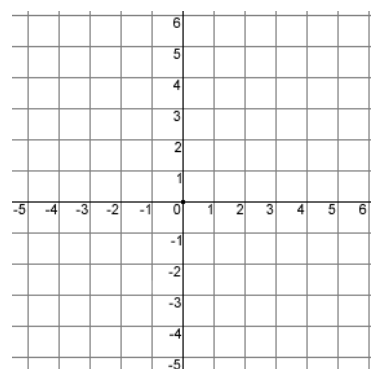
a)  $y = \frac{3}{4}x - 1$



b)  $y = -\frac{1}{2}x + 3$



c)  $y = -2x$



2) For lines in Standard Form:  $Ax + By = C$

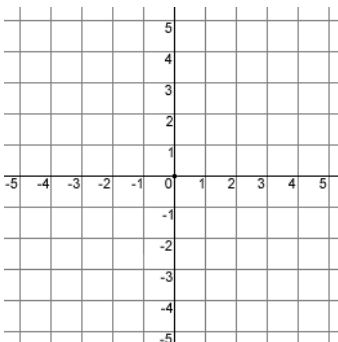
*Method 1:* Solve for **y** to put in slope-intercept form

- Move “Ax” term over to other side (either add or subtract as needed)
- Divide all terms by **B** to get **y** by itself

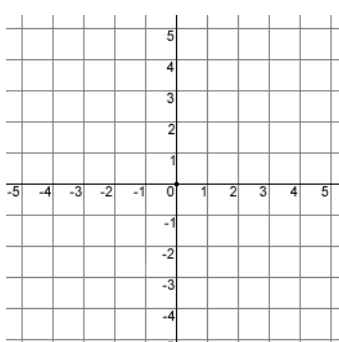
*Method 2:* Use the tricks  $m = \frac{-A}{B}$ ;  $b = \frac{C}{B}$

**Solve** for y (put in  $y = mx + b$  form) then **graph** the line.

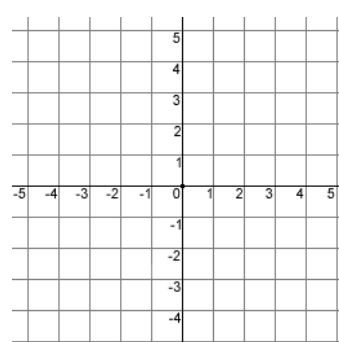
d)  $x + y = 2$



e)  $x + 2y = -4$



f)  $6x - 3y = -6$

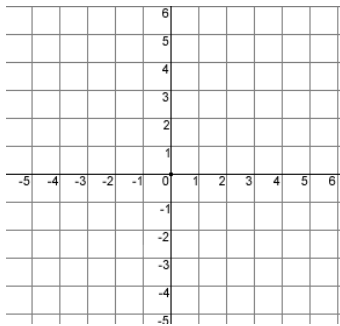


**\*\*Horizontal lines have a slope = 0, so they are of the form  $y = b$ . Vertical lines are in the form  $x = k$ \*\***

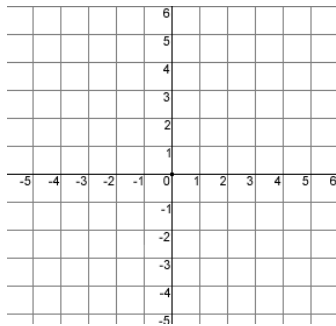
## Prerequisite Skills for Chapter 6

### Graph each equation. (Lesson 6.1)

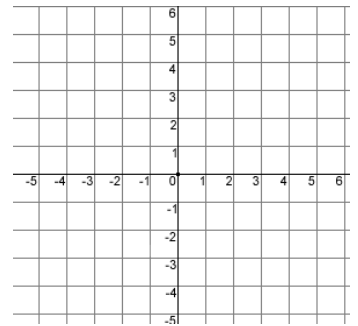
1.  $y = 1$



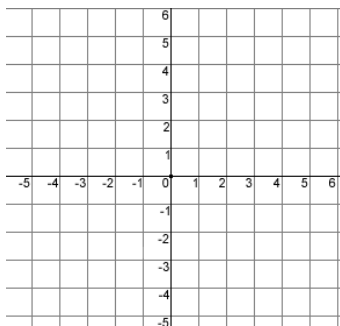
2.  $y = -2x$



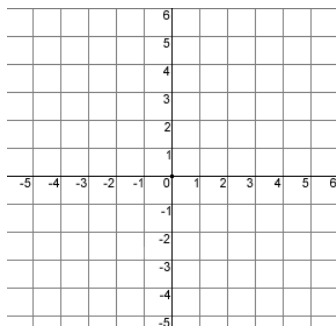
3.  $y = 4 - x$



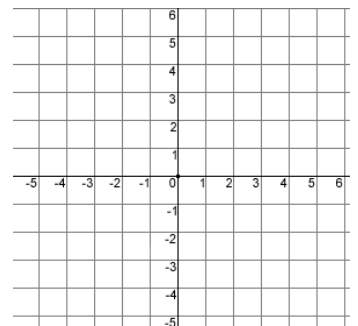
4.  $y = 2x + 3$



5.  $y = 5 - 2x$



6.  $y = \frac{1}{2}x + 2$



### Solve for the indicated variable. (Lesson 6.2)

7.  $4x + 8y = 16$ , for  $x$

8.  $4x + 8y = 16$ , for  $y$

9.  $3x - y = 9$ , for  $x$

10.  $3x - y = 9$ , for  $y$

### Simplify each expression. (Lesson 6.3)

11.  $(3x + y) - (2x + y)$

12.  $(7x - 2y) - (7x + 4y)$

13.  $(16x - 3y) + (11x + 3y)$

14.  $(8x - 4y) + (-8x + 5y)$

15.  $4(2x + 3y) - (8x - y)$

16.  $3(x + 4y) + 2(2x - 6y)$